Attorney's Docket No.: 06618/692001 / CIT-3277

## REMARKS

Reconsideration and allowance of the above referenced application are respectfully requested.

Claims 1-16 stand rejected under 35 USC 112, second paragraph, as allegedly being indefinite. In response, these claims are amended herewith for definiteness and specifically to obviate the rejections thereto. Specifically, the language objected to in the rejection has been made more specific. The word "formed" and other such method type words have been removed in favor of "made of", to emphasize that the claim defines apparatus limitations and not method limitations.

The objection to claim 6 is not understood. However, the rejection is correct that the semiconductor material of claim 2 5 is one of silicon or gallium arsenide.

Claim 7 has been rewritten.

The preamble of claim 8 has been expanded, and claims 10 and 11 have been amended for definiteness.

The examiner's comments about claims 13-16 are not understood. Since these are method claims, of course there are no structural limitations. However, the claims have been amended to emphasize that the operation is not carried out using mental steps.

Claims 1-10 and 16 stand rejected under 35 USC 102 as allegedly being anticipated by Po. Claims 13 and 15 stand

rejected based on Ford. Claims 11 stand rejected over Po in view of Ford. Claim 14 stands rejected based on Ford in view of Sanders. This leaves claim 12 as not being rejected over any of the prior art in the case.

Initially, it is noted that the Ford reference was never listed on any form PTO - 892. Please list the Ford reference on such a form, to make it of record in the case.

In summary, as amended, it is respectfully suggested that all claims are allowable. The prior art does teach optically amplifying a signal in an optical fiber. However, the prior art does not teach optically amplifying a signal in a disk shaped resonator. Disk resonators are well-known in the art, but nowhere does anything in the prior art teach or suggest such a disk shaped resonator being used to amplify an optical signal.

The claims have been amended to obviate the interpretation that an optical fiber is used. Specifically, the claims recite the data resonator which is used is an optical disk shaped resonator. This distinguishes over the cited prior art, and effectively includes the limitations of claim 11 into claim 8. Claim 11 was rejected based on Po in view of Ford, with the statement that "Ford discloses the resonator having a ring-shape...". However, the ring shaped resonator shown in figure 1 and reprinted as on page 6 of the official action, is completely

different than the resonator of the present application. The resonator shown in figure 1 is actually a fiber in the shape of a ring, not of a disk shaped resonator. This is formed of a multilayer waveguide. The waveguide is configured in a closed loop as described column 2 around line 60. However, it can be seen that this is very different than the present system which has a disk shaped resonator which is in the shape of a disk. Note that disk shaped resonators are conventionally known, and are not hollow ring-shaped lengths as in the system of Ford. Therefore, even if Ford and Po were combined, it would only provide a Ford type resonator along with Po's teaching of pumping a fiber. Therefore, claim 1 should be allowable for these reasons.

Claims 2-7 should be allowable for similar reasons to those discussed above.

Claims 8-12 should similarly be allowable. These claims have been amended to include the limitations of claim 11, reciting a disk shaped resonator. While it is known to pump fiber, it is not known to optically amplify the output of a disk shaped resonator. Therefore, claim 8 should be allowable along with claims 9, 10 and 12 which depend therefrom.

Claim 13 recite sensing rotation using this system. This claim has been canceled in order to obviate the rejections

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thereto.

Finally, claim 16 has been similarly amended to recite an optical disk shaped resonator driven until it spontaneously emits light. While all of this is known in fibers, there is no teaching or suggestion in the prior art of doing this in a disk shaped resonator.

In view of the above amendments and remarks, therefore, all of the claims should be in condition for allowance. A formal notice to that effect is respectfully solicited.

Please apply the $55 extension fee for one month and any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 11/19/02

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amendment.doc

Attached is a marked-up version of the changes being made by the current amendment.

**Version with markings to show changes made**

In the claims:

Please cancel claims 11, 13, 14, and 15.

Please amend the remaining claims as follows:

1. (Amended) [An optical structure] A device, comprising [a] an optical disk-shaped resonator, which is in the shape of a disc, formed of an inner core portion, [structure having an optical portion forming a core,] and a cladding layer surrounding said core portion, said cladding layer [formed] made of an optically active material, said cladding layer configured to amplify optical energy that is in said core portion.

2. A device as in claim 1, further comprising a pump laser, optically pumping said cladding layer.

3. (Amended) A [system] device as in claim 2 wherein said cladding layer is an erbium doped portion of material.

4. (Amended) A [system] device as in claim 2 wherein an effective path length of the pumping is based on an optical path length that is increased by the amplification.

5. (Amended) A [system] device as in claim 1 wherein said optically active portion is [formed] made of semiconductor material.

6. (Amended) A [system] device as in claim 5 wherein said semiconductor material is one of silicon or gallium arsenide.

7. (Amended) A device as in claim 1 wherein said pumping laser pumps the [system] cladding layer to produce spontaneous emission from the core.

8. (Amended) A method of amplifying light, comprising:

introducing light into an optical disk shaped resonator; and

amplifying the light in the optical disk shaped resonator.

9. A method as in claim 8 wherein said amplifying comprises amplifying the light until spontaneous emission is caused.

10. (Amended) A method as in claim 8 wherein said amplifying comprises [adding] using a pump laser to pump a doping in a core portion that is of the optical resonator.

12. (Amended) A method as in claim 8 wherein said optical resonator includes a core and a clad and said resonator has an optically active layer which uses silicon as its optically active layer.

16. (Amended) A laser comprising an optical disk shaped resonator, formed of an inner [with an] active core material surrounded by an active clad material, and a pump laser which drives said active clad material until said optical resonator spontaneously emits light.